NATURAL RESOURCES CONSERVATION SERVICE

PEST MANAGEMENT (ACRE)

CODE 595

MONTANA CONSERVATION PRACTICE SPECIFICATION

DEFINITION: Utilizing environmentally sensitive prevention, avoidance, monitoring and suppression strategies, to manage weeds, insects, diseases, animals, and other organisms (including invasive and non-invasive species) that directly of indirectly cause damage or annoyance.

PURPOSE: This practice is applied as part of a Resource Management System (RMS) to support one or more of the following purposes:

- Enhance quantity and quality of commodities.
- Minimize negative impacts of pest control on soil resources, water resources, air resources, plant resources, animal resources and/or humans.

RESOURCE MANAGEMENT SYSTEM: Pest Management is established as part of a resource management system to address the soil, water, air, plant, animal, and human needs as related to the goals and objectives of the producer. It is important to consider crop rotation, nutrient management, tillage system, and other supportive conservation practices when designing a pest management system.

This practice can be used wherever pests will be managed including cropland, hayland, pastureland, rangeland, forestland, construction sites, farmsteads, etc. Where potential hazards are identified from the risk assessment analysis, addition practices will be required in the plan to ensure protection of surface and ground water resources.

DESIGN: Field scouting, pest identification, evaluating economic thresholds, and choosing appropriate control methods are basic to IPM. Control measures may include using mechanical, biological, cultural, and chemical control methods. An effective pest management program will usually include more than one control method. Consideration of the impacts of mechanical, biological, and cultural controls should be considered before relying on chemical controls. Avoid routine preventative pest control measures. Utilize spot treatments whenever practical.

Cultural Control.

Cultural methods of pest control break the infestation cycle by making the environment less suitable for pest survival. This is accomplished by:

- reducing favorable habitat of pests
- altering planting patterns to disrupt in time and space the food and other habitat resources required by the pest
- diverting mobile pests away from the crop
- Enhancing the vigor of the crop that it can better tolerate pest injury.

Examples of **Cultural Controls** used in IPM include:

- Crop rotation
- Tillage operations that destroy the “green bridge,” aerate the soil, or bury residues
- Altering planting dates
- Altering seeding rates, crop spacing
- Sanitation practices (cleaning equipment)
- Cover traps
- Trap strips

Biological Control.

Biological controls use living organisms (natural enemies) to suppress populations of other pests. These include:

- Predators–free living animals (insects, arthropods, birds, reptiles and mammals) that eat pests.
- Parasitoids–are insect parasites of other insects. Most parasitoids are small wasps or flies.
- Pathogens–disease causing microorganisms–including viruses, bacteria, fungi, and nematodes.

Mechanical Control.

These include temperature manipulations, screens placed in irrigation ditches to reduce weed seed movement, insect traps, and frightening devices to repel birds and mammal pests.

Host Resistance.

Plant varieties tolerant of or resistant to pest attack are an economical and safe method of pest control.

Practices such as rotating control methods enhance overall pest control since it disables pests from becoming resistant. Combine different control tactics into an overall strategy that balances the strengths of each against the individual weaknesses.

Select pesticides for a specific pest with an alternate mode-of-action to minimize the development of pesticide resistance.

Most crops/forages can tolerate some level of pest infestation without loss in harvestable quantity or quality. Reduce pest populations below levels that are economically damaging rather than totally eliminating infestations.

Scouting for Pests: Probably the most critical part of an effective pest management plan is identifying pests and the infestation levels at which to treat them. Scouting is the most effective way to identify pests. TABLE 2– Critical Scouting Periods for Weed Management– provides general timelines when to be in the field to scout for weed infestations. Scouting for insect problems begins with crop rotation knowledge and previous history and local climatic conditions. Some IPM Programs are available that identify crop infestation levels and how to scout for insects (See TABLE 2). Additionally, various regionalized scouting reports are maintained and published by private consultants, cooperative extension service, etc., and may be helpful in determining whether or not insect damage may occur.

Alternatives Narrative: An alternatives narrative is required in all pest management plans. The alternatives narrative identifies resource concerns and provides an explanation of potential hazards caused by the interaction of soil and pesticides. The alternatives narrative also provides alternatives to treating pest problems. The producer-selected alternatives are then documented on the pest management job sheet. The following is an example of an Alternatives Narrative:

Pest Management Alternatives Narrative
John Doe 05/28/2002

Tracts 1816, 14446, 1676:

Resource concerns for this field are both surface and ground water related. The fields are irrigated using wheel line or pivots. There is a stream adjacent to tract 1816 that empties into Flathead Lake. Both the stream and the lake are used for fishing and recreational activities. Flathead Lake is annually raised by way of Kerr Dam, which raises the water table on these fields making ground water contamination a potential concern. There is a natural buffer of trees, shrubs, and grass buffering the field from the stream that serves to somewhat protect the water resource. There are several shallow wetlands apparent in these fields and may serve as a direct water recharge area to ground water.

Pest management, based on producer's historical use of pesticide alternatives, has been analyzed using WIN-PST.

Far-go was traditionally used for wild oat control. Far-go contains Triallate and when the product is surface applied and soil incorporated there is a 'high' potential human hazard from leaching and solution runoff. Cheyenne contains Fenoxaprop-ethyl. When Cheyenne is broadcast applied it poses an 'intermediate' human and fish hazard from leaching and. Harmony contains Thifensulfuron. Harmony poses a 'low' potential human and fish hazard from leaching and a 'low' human and fish hazard for solution runoff.

Because of the close proximity to the stream, and the intermediate hazards to humans and fish of some of the chemicals, residue management should be maintained to ensure that water erosion is prevented. Maintaining high amounts of residue will also improve the organic matter content of the soil, thereby reducing potential hazards of leaching due to the high adsorptive capacity of organic matter. Erosion should be controlled to T to maintain effectiveness of filter. The existing natural buffer strip adjacent to the stream should be maintained to provide mitigation from potential solution runoff from the field.

Vigorous crop growth will maximize soil water use and reduce the hazards of pesticide leaching through the root zone. Annual cropping should be maintained as much as possible. Legume crops are deep rooted and will maximize soil water usage ensuring prevention of leaching.

Mitigation Practices: Where risk analysis tools identify intermediate–high potential hazards to humans or fish, mitigation practices that serve to minimize those risks are required to ensure the protection of water resources. Minimizing groundwater contamination by leaching of a pesticide or associated metabolites are those practices that reduce or eliminate exposure or infiltration. Examples of these practices include reduced rates, foliar applications, alternative pesticides, and alternative controls.

Mitigation practices for limiting surface water contamination by runoff of a pesticide or associated metabolite (including runoff of soil adsorbed pesticides) are those practices that minimize water runoff and soil erosion. Examples of these practices are residue management, crop rotation, irrigation water management, and filter or buffer strips. TABLE 1–Mitigation Effectiveness Guide–Reducing Pesticide Impacts on Water Quality may be helpful in identifying methods that will help to ensure minimization of potential problems.

TABLE 1. Mitigation Effectiveness Guide–Reducing Pesticide Impacts on Water Quality

NOTE: FOTG, Section IV–Practice Standards and Specifications, 595–Pest Management requires environmental risk evaluation and appropriate mitigation for all identified resource concerns. This table identifies management techniques and conservation practices that have the potential to mitigate pesticide impacts on water quality. Not all techniques will be applicable to a given situation. Relative effectiveness ratings by pesticide loss pathway are "no effect" (blank), "slight effect" (+/-), "moderate effect" (++/--), and "significant effect" (+++/---). The table also identifies how the techniques function. Effectiveness of any mitigation technique can be highly variable based on site conditions and how it is designed. Therefore, with guidance provided by the table, site-specific selection and design of mitigation techniques that are appropriate for identified resource concerns is left to the professional judgement of the conservation planner.

PEST MANAGEMENT MITIGATION TECHNIQUES	PESTICIDE LOSS PATHWAYS			FUNCTION
	LEACHING	SOLUTION RUNOFF	ADSORBED RUNOFF	
MANAGEMENT TECHNIQUES [1/]				
Application Timing	+++	+++	+++	Reduces exposure potential–delaying application when significant rainfall events are forecast can reduce pesticide transport to ground and surface water, application when conditions are optimal can reduce the amount of pesticide applied, also delaying application when wind speed is not in accordance with label requirements can reduce pesticide drift to surface water
Formulations/Adjuvants	++	++	+	Reduces exposure potential–formulations and/or adjuvants that increase efficacy allow lower application rates
Lower Application Rates	+++	+++	+++	Reduces exposure potential–use lowest effective rate
Partial Treatment	+++	+++	+++	Reduces exposure potential–spot treatment, banding and directed spraying reduce amount of pesticide applied
Pesticide Label Environmental Hazard Warnings and BMPs	Required [2/]	Required [2/]	Required [2/]	Reduces exposure potential–label guidance must be carefully followed for pesticide applications near water bodies and on soils that are intrinsically vulnerable to erosion, runoff, or leaching
Scouting and Integrated Pest Management (IPM)Thresholds	+++	+++	+++	Reduces exposure potential–reduces the amount of pesticide applied
Set-backs	+	++	+	Reduces exposure potential–reduced application area reduces amount of pesticide applied, can also reduce inadvertent pesticide application and drift to surface water
Soil Incorporation – mechanical or irrigation	---	+++	+++	Reduces exposure potential for surface losses, but increases exposure potential for leaching losses
Substitution – ▪ Alternative pesticides ▪ Cultural controls ▪ Biological controls	+++	+++	+++	Reduces hazard potential–use alternative pesticides with low environmental risk, substituting cultural (including burning and mechanical controls) and biological controls can reduce the need for pesticides
CONSERVATION PRACTICES [3/]				
Agrichemical Mixing Center (Interim)	+++	+++	+++	Reduces the potential for point source pesticide contamination
311–Alley Cropping	+	+	++	Increases infiltration and uptake of subsurface water, reduces soil erosion, can provide habitat for beneficial insects which can reduce the need for pesticides, also can reduce pesticide drift to surface water
450–Anionic Polyacrylamide (PAM) Erosion Control	-	+	+++	Increases infiltration and deep percolation, reduces soil erosion
310–Bedding	+	+	+	Increases surface infiltration and aerobic pesticide degradation in the rootzone
314–Brush Management	+++	+++	+++	Using non-chemical brush control often reduces the need for pesticides, pesticide use requires environmental risk analysis and appropriate mitigation–see Pest Management (595)

TABLE 1. Mitigation Effectiveness Guide–Reducing Pesticide Impacts on Water Quality CONTINUED

PEST MANAGEMENT MITIGATION TECHNIQUES	PESTICIDE LOSS PATHWAYS			FUNCTION
	LEACHING	SOLUTION RUNOFF	ADSORBED RUNOFF	
CONSERVATION PRACTICES [3/]				
310–Bedding	+	+	+	Increases surface infiltration and aerobic pesticide degradation in the rootzone
314–Brush Management	+++	+++	+++	Using non-chemical brush control often reduces the need for pesticides, pesticide use requires environmental risk analysis and appropriate mitigation–see Pest Management (595)
327–Conservation Cover	+++	+++	+++	Retiring land from annual crop production often reduces the need for pesticides, builds soil organic matter
656–Constructed Wetland	+	+	++	Captures pesticide residues and facilitates their degradation
328–Conservation Crop Rotation	++	++	++	Reduces the need for pesticides by breaking pest lifecycles
332–Contour Buffer Strips		++	++	Increases infiltration, reduces soil erosion
330–Contour Farming	-	+	+	Increases infiltration and deep percolation, reduces soil erosion
331–Contour Orchard and Other Fruit Area	-	+	+	Increases infiltration and deep percolation, reduces soil erosion
585–Contour Stripcropping		++	++	Increases infiltration, reduces soil erosion
340–Cover Crop	+	+	++	Increases infiltration, reduces soil erosion, builds soil organic matter
589A–Cross Wind Ridges			(+) [4/]	Reduces wind erosion and adsorbed pesticide deposition in surface water
589B–Cross Wind Stripcropping			(++) [4/]	Reduces wind erosion and adsorbed pesticide deposition in surface water, traps adsorbed pesticides
589C–Cross Wind Trap Strips			(++) [4/]	Reduces wind erosion and adsorbed pesticide deposition in surface water, traps adsorbed pesticides
324–Deep Tillage	-	+	+	Increases infiltration and deep percolation
356–Dike	++/--	++	++	Reduces exposure potential–excludes outside water (++ leaching) or captures pesticide residues and facilitates their degradation (-- leaching)
362–Diversion	+	+	+	Reduces exposure potential–water is diverted
554–Drainage Water Management	++/--	++	++	Seasonal saturation may reduce the need for pesticides, drainage reduces storm water runoff, drainage increases infiltration and aerobic pesticide degradation in the rootzone during the growing season (++ leaching), seasonal saturation may bring the water table in contact with pesticide residues from the previous growing season (-- leaching)
386–Field Border		+	++	Increases infiltration and traps adsorbed pesticides, often reduces application area resulting in less pesticide applied, can provide habitat for beneficial insects which reduces the need for pesticides, can provide habitat to congregate pests which can result in reduced pesticide application, also can reduce inadvertent pesticide application and drift to surface water
393–Filter Strip		++	+++	Increases infiltration and traps adsorbed pesticides, often reduces application area resulting in less pesticide applied, can provide habitat for beneficial insects which reduces the need for pesticides, can provide habitat to congregate pests which can result in reduced pesticide application, also can reduce inadvertent pesticide application and drift to surface water

TABLE 1. Mitigation Effectiveness Guide–Reducing Pesticide Impacts on Water Quality CONTINUED

PEST MANAGEMENT MITIGATION TECHNIQUES	PESTICIDE LOSS PATHWAYS			FUNCTION
	LEACHING	SOLUTION RUNOFF	ADSORBED RUNOFF	
CONSERVATION PRACTICES [3/]				
400–Floodwater Diversion	+	+	+	Reduces exposure potential–floodwater is diverted
511–Forage Harvest Management	++	++	++	Reduces exposure potential–timely harvesting reduces the need for pesticides
666–Forest Stand Improvement	++	++	++	Reduces the potential for pest damage and the need for pesticides
410–Grade Stabilization Structure			++	Traps adsorbed pesticides
412–Grassed Waterway		+	++	Increases infiltration and traps adsorbed pesticides (should be applied with Filter Strips at the outlet and on each side of the waterway)
548–Grazing Land Mechanical Treatment	-	+	+	Increases infiltration and deep percolation
442–Hedgerow Planting			(+) [4/]	Reduces adsorbed pesticide deposition in surface water, also can reduce inadvertent pesticide application and drift to surface water
603–Herbaceous Wind Barriers			(+) [4/]	Reduces wind erosion, traps adsorbed pesticides, can provide habitat for beneficial insects which reduces the need for pesticides, can provide habitat to congregate pests which can result in reduced pesticide application, also can reduce pesticide drift to surface water
423–Hillside Ditch	+	+	+	Reduces exposure potential–water is diverted
464–Irrigation Land Leveling	++	+	++	Reduces exposure potential–uniform surface reduces pesticide transport to ground and surface water
441–Irrigation System, Microirrigation	++	+++	+++	Reduces exposure potential–efficient and uniform irrigation reduces pesticide transport to ground and surface water
442–Irrigation System, Sprinkler	++	++	++	Reduces exposure potential–efficient and uniform irrigation reduces pesticide transport to ground and surface water
443–Irrigation System, Surface and Subsurface	+	+	+	Reduces exposure potential–efficient and uniform irrigation reduces pesticide transport to ground and surface water
447–Irrigation System Tail Water Recovery		+++	+++	Captures pesticide residues and facilitates their degradation
449–Irrigation Water Management	+++	+++	+++	Reduces exposure potential–water is applied at rates that minimize pesticide transport to ground and surface water, promotes healthy plants which can better tolerate pests
466–Land Smoothing	+	+	+	Reduces exposure potential–uniform surface reduces pesticide transport to ground and surface water
482–Mole Drain	+	+	+	Increases infiltration and aerobic pesticide degradation in the rootzone *NOTE: avoid direct outlets to surface water
484–Mulching	+	+/-	+/-	Often reduces the need for pesticides, natural mulches increase infiltration and reduce soil erosion (+ solution and adsorbed runoff), artificial mulches may increase runoff and erosion (- solution and adsorbed runoff)
590–Nutrient Management	++	++	++	Promotes healthy plants which can better tolerate pests
512–Pasture and Hay Planting	++	++	++	Retiring land from annual crop production often reduces the need for pesticides, builds soil organic matter

TABLE 1. Mitigation Effectiveness Guide–Reducing Pesticide Impacts on Water Quality CONTINUED

PEST MANAGEMENT MITIGATION TECHNIQUES	PESTICIDE LOSS PATHWAYS			FUNCTION
	LEACHING	SOLUTION RUNOFF	ADSORBED RUNOFF	
CONSERVATION PRACTICES [3/]				
462–Precision Land Forming	++	+	++	Reduces exposure potential–uniform surface reduces pesticide transport to ground and surface water
338–Prescribed Burning	++	++	++	Often reduces the need for pesticides
528A–Prescribed Grazing	++	++	++	Improves plant health and reduces the need for pesticides
550–Range Planting	++	++	++	Increases infiltration and uptake of subsurface water, reduces soil erosion, builds soil organic matter
562–Recreation Area Improvement	++	++	++	Increases infiltration and uptake of subsurface water, reduces soil erosion, builds soil organic matter
329A–Residue Management, No-till and Strip-Till	+	++	+++	Increases infiltration, reduces soil erosion, builds soil organic matter
329B–Residue Management, Mulch-Till	+	++	+++	Increases infiltration, reduces soil erosion, builds soil organic matter
329C–Residue Management, Ridge Till	+	++	+++	Increases infiltration, reduces soil erosion, builds soil organic matter
344–Residue Management, Seasonal	+	+	+	Increases infiltration, reduces soil erosion, builds soil organic matter
391–Riparian Forest Buffer	+	+++	+++	Increases infiltration and uptake of subsurface water, traps sediment, builds soil organic matter
390–Riparian Herbaceous Cover	+	++	++	Increases infiltration, traps sediment, builds soil organic matter
557–Row Arrangement	-	+	+	Increases infiltration and deep percolation, reduces soil erosion
350–Sediment Basin			++	Captures pesticide residues and facilitates their degradation
586–Stripcropping, Field		+	+	Increases infiltration, reduces soil erosion
587–Structure For Water Control	-	++	+++	Captures pesticide residues and facilitates their degradation, increases infiltration and deep percolation
606–Subsurface Drainage	+	++	++	Increases infiltration and aerobic pesticide degradation in the rootzone *Note – avoid direct outlets to surface water
607–Surface Drainage, Field Ditch	+	+	+	Increases infiltration and aerobic pesticide degradation in the rootzone
609–Surface Roughening			(+) [4/]	Reduces wind erosion and adsorbed pesticide deposition in surface water
600–Terrace	--	++	+++	Increases infiltration and deep percolation, reduces soil erosion
612–Tree and Shrub Establishment	+++	+++	+++	Retiring land from annual crop production often reduces the need for pesticides, increases infiltration and uptake of subsurface water, builds soil organic matter
601–Vegetative Barriers			++	Reduces soil erosion, traps sediment, increases infiltration
313–Waste Storage Facility	+	++	++	Captures pesticide residues
359–Waste Treatment Lagoon		+++	+++	Captures pesticide residues and facilitates their degradation
633–Waste Utilization	++	++	++	Increases soil organic matter
638–Water and Sediment Control Basin	-	++	+++	Captures pesticide residues and facilitates their degradation, increases infiltration and deep percolation
640–Waterspreading	-	+	+	Increases infiltration and deep percolation
351–Well Decommissioning	+++			Eliminates point source contamination

TABLE 1. Mitigation Effectiveness Guide–Reducing Pesticide Impacts on Water Quality CONTINUED

PEST MANAGEMENT MITIGATION TECHNIQUES	PESTICIDE LOSS PATHWAYS			FUNCTION
	LEACHING	SOLUTION RUNOFF	ADSORBED RUNOFF	
CONSERVATION PRACTICES [3/]				
658–Wetland Creation	+	+	+	Captures pesticide residues and facilitates their degradation
659–Wetland Enhancement	+	+	+	Captures pesticide residues and facilitates their degradation
657–Wetland Restoration	+	+	+	Captures pesticide residues and facilitates their degradation
380–Windbreak/Shelterbelt Establishment			(++) [4/]	Reduces wind erosion, reduces adsorbed pesticide deposition in surface water, traps adsorbed pesticides, also can reduce pesticide drift
650–Windbreak/Shelterbelt Renovation			(++) [4/]	Reduces wind erosion, reduces adsorbed pesticide deposition in surface water, traps adsorbed pesticides, also can reduce pesticide drift

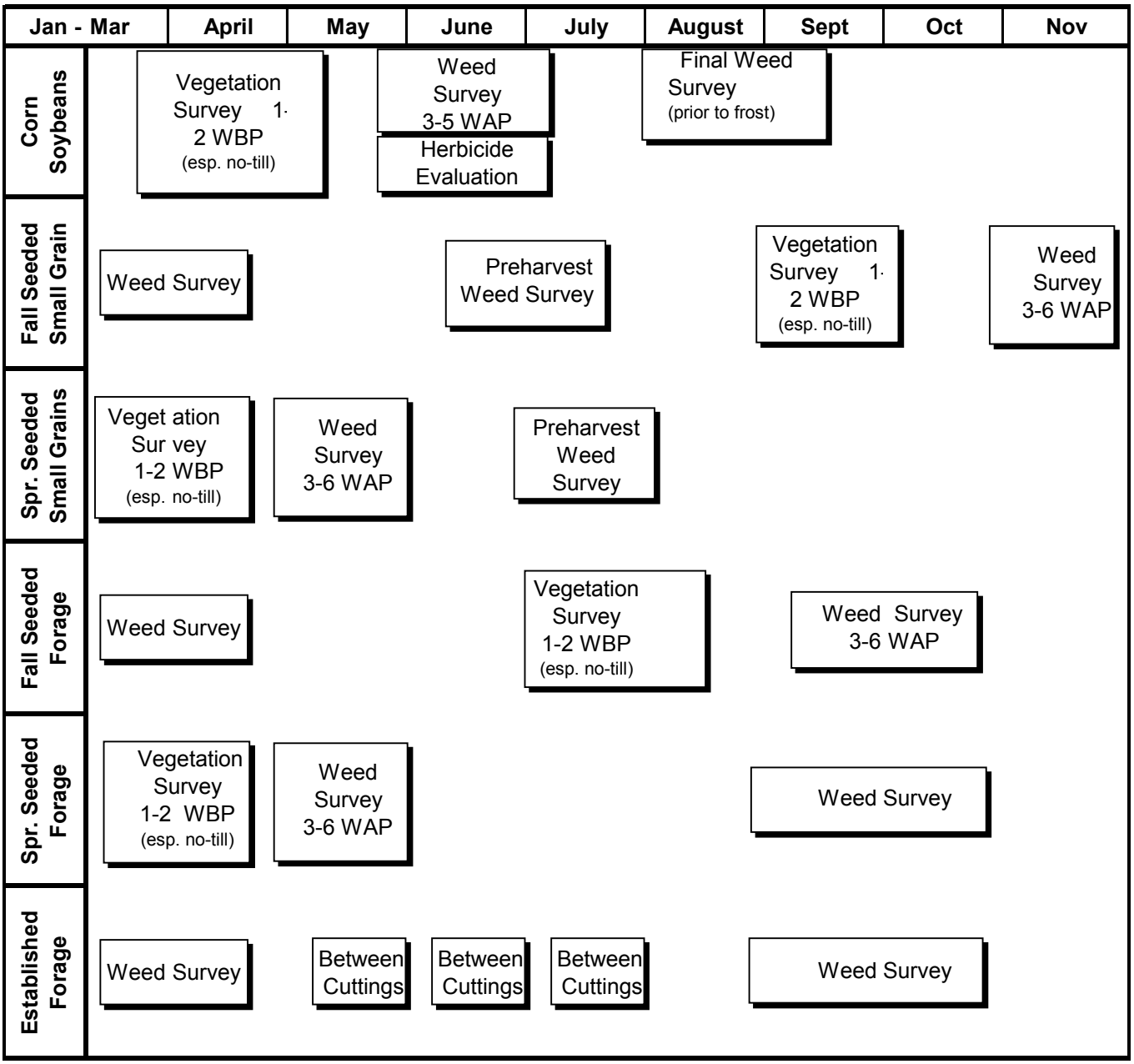
1/ Additional information on pest management mitigation techniques can be obtained from extension pest management publications, pest management consultants and pesticide labels.

2/ The pesticide label is the law–all pesticide label specifications must be carefully followed, including required mitigation. Additional mitigation may be needed to meet NRCS pest management requirements for identified resource concerns.

3/ Details regarding the effects of Conservation Practices on ground and surface water contamination by pesticides are contained in the Conservation Practice Physical Effects matrix found in the National Handbook of Conservation Practices.

4/ Mitigation applies to adsorbed pesticide losses being carried to surface water by wind.

TABLE 2. Critical Scouting Periods for Weed Management.* **



* WBP = weeks before planting; WAP = weeks after planting

** Specific dates for scouting may vary depending on your location and climate.

TABLE 3. Montana IPM Programs.*

CROP (PEST SPECIES)	THRESHOLD/SAMPLE TECHNIQUE
ALFALFA HAY	
Alfalfa caterpillar	10 per 90° sweep
Alfalfa weevil	10 per 90° sweep
Pea aphid	300 per 90° sweep
Spotted alfalfa aphid	Dryland = 5 to 10 per 90° sweep. Irrigated = undefined
Cutworms	5 per square foot of soil around plant
Blister beetles	none established
Grasshoppers	10 per square yard
Meadow spittlebug	none established
Spider mites	none established
ALFALFA SEED	
Seed Chalcid	none established
Alfalfa weevil	20 per 90° sweep
Aphids	100–300 per 90° sweep
Armyworms and cutworms	same as hay
CORN	
Aphids	100 per plant tassel emergence
Corn earworm	greater than 150 moths per pheromone trap
Corn rootworms	5 or more per plant as silking begins
Cutworms and armyworms	1–4 worms per linear foot of row
Grasshoppers	8 per square yard in field or 20 per square yard in margins
Seed corn maggot	none established
Wireworms	none established
Spider mites	none established
SMALL GRAINS	
Aphids (other than Russian wheat) Russian wheat aphid	2–10 per tiller, per stem, or per head, prior to dough stage
Armyworms and cutworms	4-5 per square foot
Thrips	20-50 per plant before heads form
Wheat stem maggot	none established
Wheat stem sawfly	none established
Wireworms	20% stand reduction
SUGARBEETS	
Beet leafhopper	5 per 10 180° sweeps
Cutworms	4-5% cutting of seedling beets
Flea beetles	none established
Sugarbeet root maggot	none established
Sugarbeet webworm	when 50% of leaves show eggs or small larvae

*From State of Montana Department of Agriculture

OTHER CONSIDERATIONS:

Consider the following IPM principles:

- Prevention, such as using pest-free seeds and transplants, cleaning tillage and harvesting equipment between fields, irrigation scheduling to avoid situations conducive to disease development, etc.
- Avoidance, such as using pest resistant varieties, crop rotation, trap crops, etc.
- Monitoring, such as pest scouting, soil testing, weather forecasting, etc. to help target suppression strategies and avoid routine preventative pest control .
- Suppression, such as cultural, biological and chemical controls, that can reduce a pest population or its impacts. Chemical controls should be used judiciously in order to minimize environmental risk and pest resistance.

Adequate plant nutrients and soil moisture, including favorable pH and soil conditions, should be available to reduce plant stress, improve plant vigor and increase the plant" overall ability to tolerate pests.

On irrigated land, irrigation water management should be designed to minimize pest management environmental risk.

Adequate plant nutrients and soil moisture, including favorable pH and soil conditions, should be provided to reduce plant stress, improve plant vigor and increase the plant's overall ability to tolerate pests.

On irrigated land, irrigation water management should be designed to minimize pest management environmental risk.

TABLE 2–Critical Scouting Periods for Weed Management may be used as a guideline for scheduling on-site weed infestation investigations.

Producers should be aware of neighboring fields where organic production is practiced in an effort to minimize any potential adverse impacts on those crops and associated certification.

Specification MT595-12

OPERATION AND MAINTENANCE:

The pest management component of a conservation plan shall include appropriate operation and maintenance items for the client. These may include:

- Review and update of the plan periodically in order to incorporate new IPM technology, respond to cropping system and pest complex changes, and avoid the development of pest resistance.
- Maintain mitigation techniques identified in the plan in order to ensure continued effectiveness.
- Develop a safety plan for individuals exposed to chemicals, including telephone numbers and addresses of emergency treatment centers and the telephone number for the nearest poison control center. The National Pesticide Information Center (NPIC) telephone number in Corvallis, Oregon, may also be given for non-emergency information:

1-800-858-7384

Monday–Friday

6:30 a.m. to 4:30 p.m. Pacific Time

In Montana, the poison control number is:

1-800-525-5042

For advice and assistance with emergency spills that involve agrichemicals **in Montana**, **phone calls in the following order should be made:**

1st responder – **911**
2nd responder – **local sheriff or police**
3rd responder – **County D.E.S. (Disaster Emergency Services)**
4th responder – **Montana Department of Agriculture – 444-3730**

The national CHEMTRAC **(Chemical Transportation Emergency Center)** telephone number is:

1-800-424-9300

- Follow label requirements for mixing/loading setbacks from wells, intermittent streams and rivers, natural or impounded ponds and lakes, or reservoirs.
- Post signs according to label directions and/or Federal, State, and local laws around fields that have been treated. Follow restricted entry intervals.
- Dispose of pesticides and pesticide containers in accordance with label directions and adhere to Federal, State, and local regulations.
- Read and follow label directions and maintain appropriate Material Safety Data Sheets (MSDS). **Material safety data sheets and pesticide labels may be accessed on the Internet at www.greenbook.net/free.asp.**
- Calibrate application equipment according to **Montana Extension Service** recommendations before each seasonal use and with each major chemical change.
- Replace worn nozzle tips, cracked hoses, and faulty gauges.

Maintain records of pest management for at least two years. Pesticide application records shall be in accordance with USDA Agricultural Marketing Service's Pesticide Record Keeping Program and state specific requirements

NRCS, MT
January 2003